

REMARKS

The present application has been reviewed in light of the Office Action dated October 16, 2008. Claims 1, 7-10, and 24 are presented for examination, of which Claims 1 and 9 are in independent form. Claims 12-23 have been withdrawn from consideration. Claims 2-4 and 6 have been cancelled, without prejudice or disclaimer of the subject presented therein, and new Claim 24 has been added to provide Applicant with a more complete scope of protection. Claims 1 and 9 have been amended to define aspects of Applicant's invention more clearly. Favorable consideration is requested.

The Office Action states that Claims 1, 2, 4, and 6-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Application No. 2001-112004 (*Eiji*), in view of U.S. Patent Application No. 2004/0001635 (*Van Der Schaar*) and U.S. Patent Application No. 2003/0081847 (*Sato*). Cancellation of Claims 2-4 and 6 renders their rejections moot. For at least the following reasons, Applicant submits that independent Claims 1 and 9, together with the claims dependent therefrom, are patentably distinct from the cited prior art.

The aspect of the present invention set forth in Claim 1 is directed to a moving image decoding method of decoding encoded moving image data, which is generated by decomposing each frame of moving image data into subbands, and encoding coefficients of the subbands from upper to lower bits for respective bitplanes or sub-bitplanes for each predetermined unit. The method includes: (1) a calculation step of, for each frame, calculating a time difference ΔT between a decoding process time DT required to perform a decoding process and a target decoding time T for the decoding process, and summing each calculated time difference ΔT to obtain an accumulated time

difference TT; (2) a non-decoding bitplane determination step of determining bitplanes or sub-bitplanes that are not to be decoded based on the accumulated time difference TT; (3) a bitplane decoding step of reclaiming the coefficients of the subbands from encoded data of bitplanes or sub-bitplanes other than the bitplanes or sub-bitplanes determined in the non-decoding bitplane determination step; and (4) a subband composition step of generating frame data by compositing the coefficients of the subbands reclaimed in the bitplane decoding step. The non-decoding bit-plane determination step includes: (a) managing a table which stores, for each subband, candidates, wherein each candidate represents a number of lower bitplanes or lower sub-bitplanes that are not to be decoded, wherein each of the candidates is associated with an index, wherein, for each subband, increasing values of the candidates are arranged in an increasing order of values of associated indices, (b) controlling a value of a variable Q in accordance with a value of the accumulated time difference TT, (c) selecting a candidate associated with an index corresponding to the variable Q, and (d) setting lower bitplanes or lower corresponding to the selected candidate as the bitplanes or sub-bitplanes that are not to be decoded.

Notable features of Claim 1 are that, for each frame, a time difference ΔT between a decoding process time DT required to perform the decoding process and a target decoding time T for the decoding process is calculated, and an accumulated time difference TT is obtained by summing each calculated time difference ΔT ; and that bitplanes or sub-bitplanes that are not to be decoded are determined based on the accumulated time difference TT. By virtue of these features, a resolution of a decoded image can be adjusted

dynamically by selecting bitplanes that are not to be decoded, based on a value of the accumulated time difference TT, for example.^{1/}

Eiji relates to a system that enables a bit rate and a resolution of encoded data to vary over time. Apparently, *Eiji* discusses that a decoding processing time and bit rate can be specified when encoded data is requested (see paragraphs 23 and 32). *Eiji* further discusses that batch decoding processing times and bit rates can be specified for each batch of a plurality of batches of the requested encoded data (see paragraph 56). In addition, a coding processing time of each image frame can be set based on a decoding processing speed of a video decoding device, a coding processing speed of video coding equipment, and a desired number of image frames per second (see paragraph 57). Nothing has been found in *Eiji* that is believed to teach or suggest that the video decoding device calculates a time difference between a decoding process time that is actually required to perform a decoding process and a target decoding time T for the decoding process, much less that the decoding device sums such time differences that are calculated for each frame of data to obtain an accumulated time difference. Further, nothing has been found in *Eiji* that is believed to teach or suggest that the video decoding device determines bitplanes or sub-bitplanes that are not to be decoded based on the accumulated time difference. Moreover, nothing has been found in *Van Der Schaar* and *Sato* that is believed to cure the deficiencies of *Eiji* identified above.

Accordingly, Applicant submits that a combination of *Eiji*, *Van Der Schaar*, and *Sato*, assuming such combination would even be permissible, would fail to teach or

^{1/} The example(s) presented herein are intended for illustrative purposes only. Any details presented in the illustrative example(s) should not be construed to limit the scope of the claims.

suggest a decoding method that includes a “calculation step of, for each frame, calculating a time difference ΔT between a decoding process time DT required to perform a decoding process and a target decoding time T for the decoding process, and summing each calculated time difference ΔT to obtain an accumulated time difference TT ,” and a “non-decoding bitplane determination step of determining bitplanes or sub-bitplanes that are not to be decoded based on the accumulated time difference TT ,” as recited in Claim 1. Accordingly, Applicant submits that Claim 1 is patentable over *Eiji*, *Van Der Schaar*, and *Sato*, and respectfully requests withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claim 9 includes features similar to those of Claim 1 discussed above. Therefore, Claim 9 also is believed to be patentable over *Eiji*, *Van Der Schaar*, and *Sato* for at least the reasons discussed above. The other claims in the present application depend from one or another of Claims 1 and 9 discussed above, and therefore are submitted to be patentable for at least the same reasons. Because each dependent claim also is deemed to define an additional aspect of the invention, individual consideration of the patentability of each claim on its own merits is respectfully requested.

No petition to extend the time for response to the Office Action is deemed necessary for this Preliminary Amendment. If, however, such a petition is required to make this Preliminary Amendment timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable consideration and an early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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